REMARKS

Amendment to the Claims

The present amendment to the claims more clearly states the present invention. No new matter is introduced through these amendments.

Status of the Claims and General Summary of Claim Rejections

Claims 1-41 are pending in the present application. Claims 1-7, 9-11 and 14-27 have been rejected under 35 U.S.C. § 102 (e) as being anticipated by McGuinness, U.S. Patent No. 6,104,416. Claims 28-29, 31-32, 34, 37-38 and 40-41 have been rejected under 35 U.S.C. § 102 (b) as being anticipated by Bheda et al. (Bheda), U.S. Patent No. 5,990,958. Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over McGuinness in view of Sorin et al. (Sorin) U.S. Patent No. 6,631,164. Claims 12 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McGuinness in view of Levy, U.S. Patent No. 5,170,251. Claims 30 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bheda in view of McGuinness. Claims 35 and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bheda in view of Kim et al. (Kim), U.S. Patent No. 6,525,783. The Applicant respectfully traverses all rejections herein.

35 U.S.C. § 102(e) Rejection per McGuinness

The Examiner has rejected Claims 1-7, 9-11 and 14-27 under 35 U.S.C. § 102 (e) as being anticipated by McGuinness. *Office Action, 2.* Applicant respectfully traverses this rejection.

Claim 1 has been amended to indicate that the data to be fetched is located in a plurality of locations in the memory, and that it is retrieved from these locations and then combined into a plurality of data packets in accordance with a packetization scheme based upon the locations of the data.

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Applicant submits that McGuinness does not anticipate claim 1 as amended. McGuinness is limited to storing and retrieving the data sequentially, as evidenced by the same portions cited by the Examiner. For example:

> An arbitrary array portion of the digital array is retrieved from the memory. The word address of the word storing the column and the row corresponding to the first datum of the array portion is determined. The number of tiles that contain data in the array portion is also determined. The desired array portion is then read from memory by reading a part of each title in one memory burst.
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> Each tile has X rows and Y columns. The digital array is retrieved for display by: (a) reading data in a word having a word address, the word storing data of one row of one of the tiles; (b) reading data in a word having a word address equal to the word address read in step (a) plus X. Repeating step (b) each time incrementing the word address by X until data row of the digital array is read and then reading the data in a word whose word address is equal to the word address read in step (a) plus 1.

McGuinness, 3:35-50. Similarly:

> In the first row 416 of next tile 420 is stored a word 417 having a word address adjacent and subsequent to the word 415 storing the data of the last row 418 of the first tile 402, which is the adjacent tile in a directly preceding stripe (i.e., the tile directly on the left). This facilitates easy retrieval of rows in the next tile 420 upon the retrieval of a row or rows of the adjacent tile to the right. The above process is repeated for each adjacent tile proceeding to the right until the rows of the rightmost tile are stored in words $422._0$ through $422._{63}$.
>
> This process is then repeated for the tiles immediately below, with the first row 426 of the tile 424 immediately below the first tile 402 stored in a word 428 having the word address immediately subsequent to the word 422.sub.63 storing the rightmost word of the last tile in the preceding row of tiles. This is repeated until the data in all of the tiles is stored in memory 410.

McGuinness, 11:1-16.

Nowhere does McGuinness teach or suggest storing the date in any other fashion, or retrieving the data from a plurality of locations in the memory and then combining it into data packets. Rather, McGuinness is limited to storing and reading the data sequentially, one word at a time, and no other method of storing or retrieving the

data is disclosed. In short, McGuinness does not disclose any "packetization scheme" as required by claim 1. Thus, McGuinness does not anticipate claim 1 as amended.

As a matter of law, any dependent claim that depends from an allowable independent claim cannot be obvious and/or anticipated in and of itself. See 35 U.S.C. § 112, ¶ 4. Since the Applicant has evidenced the allowability of independent base claim 1, the Applicant contends that dependent claims 2-7, 9-11 and 14-18 of the present application are also allowable.

Independent claims 19, 21, and 24-27 similarly indicate either 1) that the data is stored in and retrieved from a plurality of independently addressed portions of the memory and combined into packets, and not stored and retrieved sequentially as in McGuinness, or 2) that data is unpacked from data packets and reassembled into usable chunks based upon the packetization scheme used to create the packets, again not serially read according to McGuinness. Accordingly, these claims are similarly not anticipated by McGuinness, and since these claims are not anticipated, dependent claims 20, 22 and 23 are also allowable.

The Applicants thus respectfully request the rejection of claims 1-7, 9-11 and 14-27 as anticipated by McGuinness under 35 U.S.C. § 102(e) be withdrawn.

35 U.S.C. § 102(b) Rejection per Bheda

The Examiner has rejected Claims 28-29, 31-32, 34, 37-38 and 40-41 under 35 U.S.C. § 102 (b) as being anticipated by Bheda. *Office Action, 10.*

Claim 28 has been amended to indicate that the reference pixel data stored in the memory is retrieved and then packed into a plurality of data packets according to instructions included in the memory commands before being sent to the reference data assembly module. The data packets are then unpacked and the reference pixel data reassembled into a video bit stream.

Behda is concerned with dividing the work of decoding an MPEG video stream by separating tasks which require extensive memory and computational resources from

those that do not. The former tasks are then performed in dedicated hardware, while the latter are performed by software on a standard processor.

However, Behda does not specifically address the storage and retrieval of the data, but rather assumes that there is an "encoded MPEG data stream" that has been received. *See, e.g., Behda at Abstract; 4:13-16; claim 1, 23:64-65.* Nowhere does Behda discuss how that data stream was stored, or the memory bandwidth necessary to retrieve it. Rather, Behda is only concerned with efficiently decoding the data stream once it has been retrieved.

Accordingly, Behda does not anticipate claim 28 as amended, since it does not teach or suggest packing the retrieved data into data packets according to some instruction and then unpacking them to reconstruct the data, i.e. the video stream.

As a matter of law, any dependent claim that depends from an allowable independent claim cannot be obvious and/or anticipated in and of itself. See 35 U.S.C. § 112, ¶ 4. Since the Applicant has evidenced the allowability of independent base claim 28, the Applicant contends that dependent claims 29-41 of the present application are also allowable.

The Applicants thus respectfully request the rejection of claims 28-29, 31-32, 34, 37-38 and 40-41 as anticipated by Bheda under 35 U.S.C. § 102(b) be withdrawn.

35 U.S.C. § 103(a) Rejections per McGuinness in view of Sorin

The Examiner has rejected claim 8 pursuant to 35 U.S.C. § 103(a) as being unpatentable over McGuinness in view of Sorin. *Office Action, 12.*

In the first instance, the Examiner relies upon McGuinness for the "teachings as discussed above relative to Claim 4." *Office Action, 13.* (Claim 8 depends from claim 4.) For the reasons discussed above, McGuinness does not anticipate claim 1 as amended, and thus also does not anticipate claim 4. There is no "packetization scheme" in McGuinness as required by claim 1, claim 4, or claim 8.

In addition, however, Sorin does not describe a "packetization scheme . . . combining a first part of the luminance chunk and a second part of the luminance chunk

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into one of the plurality of data packets" as stated by the Examiner. *Id.* Rather, the cited portions of Sorin only disclose that "the stored blocks can be luminance blocks forming part of the macroblocks defined in the MPEG standard." *Sorin, 6:36-37.* There is no suggestion in Sorin that these blocks are to be combined in a data packet or how they would be combined. Accordingly, Sorin fails to demonstrate the packetization scheme missing from McGuinness and required in claim 8.

Thus, McGuinness or Sorin, or their combination, even if motivated, fail to evidence the recited limitation of claim 8, i.e., a packetization scheme in which two parts of the luminance chunk are combined in a data packet. See *In re Royka,* 490 F.2d 981, 985 (CCPA 1974). As such, a *prima facie* case of obviousness does not exist with regard to this claim and the Examiner's rejection is overcome. See MPEP § 2143.

The Applicants thus respectfully request the rejection of 8 as being unpatentable over McGuinness in view of Sorin pursuant to 35 U.S.C. § 103(a) be withdrawn.

35 U.S.C. § 103(a) Rejections per McGuinness in view of Levy

The Examiner has rejected claims 12 and 13 pursuant to 35 U.S.C. § 103(a) as being unpatentable over McGuinness in view of Levy. *Office Action,* 13.

Again, the Examiner relies upon McGuinness for the "teachings as discussed above relative to Claim 1." *Office Action, 14.* (Claim 12 depends from claim 1.) For the reasons discussed above, McGuinness does not anticipate claim 1 as amended. There is no "packetization scheme" in McGuinness as required by claim 1 or claim 12.

With respect to claim 12 in particular, the claim is not merely "selecting the packetization scheme by a table lookup" as the Examiner appears to believe. Rather, while the "packetization scheme maps a first set of components to a second set of components by a table lookup," claim 12 is not limited to this but may include other functionality in the packetization scheme; the mapping may be only a portion of the packetization scheme.

Further, contrary to the Examiner's assertion, Levy does not suggest "selecting the packetization scheme by a table lookup." *Id.* Levy is only directed at allowing data

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defining a video frame to be read <u>serially</u> from memory, where portions of the data may be stored at different locations ("so that the data can be linearly accessed from the memory," *Levy, Abstract; 2:1-2*). Levy merely uses a lookup table to indicate the order in which pixel blocks written to memory are to be read so that the data is "linearly accessed." This does not constitute the packetization scheme of claim 12, and does not map one set of components to another. Finally, Levy does not even mention either luminance or chrominance, and thus cannot teach or suggest anything related to mapping one to the other as claimed in claim 13.

Thus, McGuinness or Levy, or their combination, even if motivated, fail to evidence the recited limitations of claims 12 or 13, i.e., mapping a first set of components to a second set of components by a table lookup where the first set is luminance and the second is chrominance. See *In re Royka*, 490 F.2d 981, 985 (CCPA 1974). As such, a *prima facie* case of obviousness does not exist with regard to these claims and the Examiner's rejection is overcome. See MPEP § 2143.

The Applicants thus respectfully request the rejection of claims 12 and 13 as being unpatentable over McGuinness in view of Levy pursuant to 35 U.S.C. § 103(a) be withdrawn.

35 U.S.C. § 103(a) Rejections per Bheda in view of McGuinness

The Examiner has rejected claim 30 and 39 pursuant to 35 U.S.C. § 103(a) as being unpatentable over Bheda in view of McGuinness. *Office Action, 14.*

With respect to claim 30, the Examiner relies upon Behda for the "teachings as discussed above relative to Claim 28." *Office Action, 15.* (Claim 30 depends from claim 28.) For the reasons discussed above, Behda does not anticipate claim 28 as amended. Behda says nothing about storing and retrieving the data but merely assumes an encoded MPEG video stream.

The Examiner then proceeds to rely on McGuinness for describing "that the memory commands comprises [sic] specifications for combining selected portions of the pixel data . . . into at least one of the plurality of data packets." *Id.* However, as

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discussed above, McGuinness says nothing of a packetization scheme, or combining any data into data packets, but merely teaches sequential storage and retrieval of the data.

Thus, neither Behda nor McGuinness, nor their combination, demonstrates the use of the memory commands to contain the specifications for packetization, nor indeed even packetization at all.

With respect to claim 39, the Examiner similarly relies on McGuinness as describing the contents of at least one data packet. Again, McGuinness neither teaches nor suggests any packetization. Again, Behda does not involve storage or retrieval of the video signal. Claim 39 requires that data be combined into packets based on memory commands; neither Behda nor McGuinness, nor their combination, teach or suggest this and thus fail to make the limitations of claim 39 obvious.

Thus, Behda or McGuinness, or their combination, even if motivated, fail to evidence the recited limitations of claims 30 or 39, i.e., using the memory commands to contain the specifications for combining data into the data packets, . See *In re Royka*, 490 F.2d 981, 985 (CCPA 1974). As such, a *prima facie* case of obviousness does not exist with regard to these claims and the Examiner's rejection is overcome. See MPEP § 2143.

The Applicants thus respectfully request the rejection of claims 30 and 39 as being unpatentable over Behda in view of McGuinness pursuant to 35 U.S.C. § 103(a) be withdrawn.

35 U.S.C. § 103(a) Rejections per Bheda in view of Kim

The Examiner has rejected claim 35 and 36 pursuant to 35 U.S.C. § 103(a) as being unpatentable over Bheda in view of Kim. *Office Action, 16.*

With respect to claim 35, the Examiner again relies upon Behda for the "teachings as discussed above relative to Claim 28." *Office Action, 15.* (Claim 30 depends from claim 28.) Again, as discussed above, Behda does not anticipate claim 28 as amended. Behda says nothing about storing and retrieving the data but merely assumes an encoded MPEG video stream.

Kim describes the use of a variable length decoding module which extracts motion vectors and sends them to an address generator. However, like Behda, Kim does not describe combining data from different locations in memory into data packets and thus does not teach or suggest the limitations of claim 28 as amended. Since claims 35 and 36 depend from claim 28 and contain those limitations, neither Behda nor Kim, or their combination, teaches or suggests such packing of data into data packets.

Thus, Behda or Kim, or their combination, even if motivated, fail to evidence the recited limitations of claims 35 or 36, i.e., the underlying packing and unpacking of data in data packets as recited in claim 28. See *In re Royka*, 490 F.2d 981, 985 (CCPA 1974). As such, a *prima facie* case of obviousness does not exist with regard to these claims and the Examiner's rejection is overcome. See MPEP § 2143.

The Applicants thus respectfully request the rejection of claims 35 and 36 as being unpatentable over Behda in view of Kim pursuant to 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

The Applicants contend that the Examiner's 35 U.S.C. § 102(e) rejection is overcome by McGuinness' failure to disclose all of the elements of independent claims 1, 19, 21 and 24-27.

The Applicants contend that the Examiner's 35 U.S.C. § 102(b) rejection is overcome by Behda's failure to disclose all of the elements of claim 28.

The Applicants contend that the Examiner's 35 U.S.C. § 103 rejections are overcome in that there would be no motivation to combine McGuinness and Sorin, McGuinness and Levy, Behda and McGuinness, or Behda and Kim, as neither the individual references nor any of these combinations discloses the packetization of data retrieved from multiple locations in memory pursuant to a packetization scheme as in the present invention. The Applicants thus respectfully submit that there is no cited prior art which shows this limitation, and, further, that a *prima facie* case of obviousness has thus not been made.

All dependent claims of the present application are allowable by virtue of their dependence on (either directly or via an intermediate dependent claim) an allowable base claim.

While the Applicant believes a *Notice of Allowance* is now warranted, the Examiner is invited to contact the Applicant's undersigned representative with any questions concerning the present application.

Respectfully submitted,
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